"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

23126
S/181/61/003/005/031/042
B108/B209

9,4300 (1143, 1151, 1136)

AUTHORS: Landsberg, Ye. G. and Kalashnikov, S.G.

TITLE: Electron capture cross section of manganese atoms in germanium

PERIODICAL: Fizika tverdogo tela, v. 3, no. 5, 1961, 1566 - 1570

TEXT: The authors studied the temperature dependence of the electron lifetime in p-type germanium containing high-purity manganese. The manganese concentration was determined from the variation in the temperature dependence of the Hall constant. For this purpose, an ingot with a given antimony concentration was prepared, whose electron concentration n_o (equaling the difference between donor and acceptor concentrations $N_d - N_a$) was measured. After this, manganese was added so that the lower manganese level was partly filled with electrons. Fig. 1 shows the result. The obtained concentration of manganese atoms, N_t, corresponds to a distribution coefficient, k, of about $1.5 \cdot 10^{-6}$. Gallium was introduced

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Electron capture cross...

into the crystals in order to obtain samples with a known hole concentration. The Hall constant was measured in a field of 3600 oersteds. After this the crystals were melted, and manganese was added. The properties of the samples are given in the Table. The lifetime was measured by a method of compensating the voltage of the photomagnetic effect and the photoconductivity (Ref. 4: S. G. Kalashnikov, Ye. G. Landsberg. ZhTF, XXVIII, 1387, 1958). Measurements were made in the temperature interval of from 95 to 330°K and showed a decrease in electron lifetime with rising manganese content. The manganese atoms in p-type germanium were found not to give rise to a noticeable adhesion. Considering that, according to Ref. 1 (H. H. Woodbury a. W. W. Tyler. Phys. Rev., 100, 659, 1955), manganese produces two levels in germanium ($E_1 - E_v = 0.16$ ev and $E_c - E_2 = 0.37$ ev), the theoretical expression for the lifetime under the present conditions reads: $\tau = \frac{p_o + p_1}{C_{n1}p_o + C_{n2}p_1}$ (1), where $C_{n1} = NvS_{n1}$; $C_{n2} = NvS_{n2}$; S_{n1} and S_{n2} are the electron capture cross sections for the lower and the

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Electron capture cross...

upper level, respectively; v is the velocity of thermal motion of electrons; $p_1 = \frac{g_1}{g_0} N_v \exp \frac{E_v - E_1}{kT}$ (2); g_1 and g_0 are the degeneration multiplicity factors of the completed and of the empty level E_1; N_v denotes the effective phase density in the valence band. The capture cross sections calculated from experimental data on lifetime and manganese concentration were found to be $S_{n1} = 2 \cdot 10^{-16}$ cm^2 (90°K) and $S_{n2} = 4 \cdot 10^{-17}$ cm^2 (300°K). The mean velocity of thermal motion of electrons at 300°K was taken to be $1.07 \cdot 10^7$ cm/sec. The results showed only a slight temperature dependence of the capture cross sections, which is typical of deep acceptor levels in germanium. The lower level is ascribed to Mn^- ions, and the upper one to Mn^{2-} ions. The high capture cross section S_{n1} is explained by a theory established by M. Lax (Ref. 10: J. Phys. Chem. Sol., 8, 66, 1959) who considered capture to be a sequence of single-phonon processes in which excited centers take part. The S_{n2} capture (electron capture on Mn^- ions) is ascribed to the tunnel effect in the presence of a Coulomb barrier.

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Electron capture cross...

There are 3 figures, 1 table and 20 references: 8 Soviet-bloc and 11 non-Soviet-bloc.

ASSOCIATION: Institut radiotekhniki i elektroniki AN SSSR Moskva (Institute of Radio Engineering and Electronics AS USSR, Moscow)

SUBMITTED: November 30, 1960

Table.

Table

Номер образца 1)	Концентрация дырок p_o, $см^{-3}$ 2)	Концентрация марганца N_t, $см^{-3}$ 3)	Время жизни τ_{n02}, мксек. 4)	Время жизни τ_{n01}, мксек. 5)	Плотность дислокаций Nd, $см^{-2}$ 6)
1	$1.0 \cdot 10^{15}$	$5.0 \cdot 10^{13}$	50	15	80
2	$1.4 \cdot 10^{15}$	$1.0 \cdot 10^{14}$	26	7.5	900
3	$2.8 \cdot 10^{15}$	$2.0 \cdot 10^{14}$	15	4.8	800
4	$2.1 \cdot 10^{15}$	$2.6 \cdot 10^{14}$	12	3.6	100
5	$4.8 \cdot 10^{15}$	$6.0 \cdot 10^{14}$	4.8	1.5	500
6	$6.0 \cdot 10^{15}$	$1.1 \cdot 10^{15}$	2.0	0.7	1200

Legend: 1)Number of sample; 2)hole concentration p_o, cm^{-3}; 3)manganese concentration N_t, cm^{-3}; 4)lifetime τ_{n02}, μsec; 5)lifetime τ_{n01}, μsec; 6)density of dislocations Nd, cm^{-2}.

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

24.7700

36471
S/181/62/004/003/010/045
B102/B104

AUTHORS: Karpova, I. V., Alekseyeva, V. G., and Kalashnikov, S. G.

TITLE: Recombination properties of gold in n-type germanium

PERIODICAL: Fizika tverdogo tela, v. 4, no. 3, 1962, 634 - 641

TEXT: This paper is to complete previous studies (FTT, 3, 964, 1961) about p-type Ge. The data available up to now, especially those on Au electron-trapping cross sections, diverge considerably and the temperature dependence of these cross sections is not sufficiently investigated. n-type Ge single crystals were grown from 99.99% Ge and from Ge of even higher purity. Both series of samples were doped with Au and Sb of such concentrations that the temperature dependences of the electron concentrations, $\log n_o = f(1/T)$, showed separate and distinct plateaus. The overall lifetime was measured between 100 and 330°K photoelectromagnetically between 100 and 330°K ($\tau_{pem} = 10^{-9}$-10^{-10} sec) without being affected by adhesion. It was also determined from photoconductivity (τ_{pc}) in order to determine the effect of adhesion. τ_{pem} and τ_{pc} were calculated without

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Recombination properties ...

consideration of surface recombination effects on the assumption that the Hall mobility is equal to the drift mobility. Electron mobility was determined from measurements of resistivity and Hall-constant. τ_{pem} and τ_{pc} were plotted versus temperature for three Au-doped specimens and one Sb-doped standard. The curves $\log \tau = f(1/T)$ for τ_{pem} and τ_{pc} coincide at room and higher temperatures, but diverge at low temperatures. At 100°K τ_{pc} exceeds τ_{pem} for Au-doped Ge by several thousand times which is indicative of the intense adhesion of minority carriers. Adhesion increases with the Au concentration; τ_{pem} is proportional to $1/C_{Au}$ at low temperatures. Au furnishes the major part of recombination and adhesion centers, Sb and other impurities play a minor role. This effect of Au is attributed to its level $E_c - E_3 = 0.20$ ev. The hole trapping coefficient, α_p^-, of the doubly charged Au centers was determined from the lower part of the temperature dependence of τ_{pem}. At 300°K, α_p^- is equal to $1 \cdot 10^{-7}$ cm^3·sec^{-1}, $\alpha_p^-(T) \sim T^{-n}$ with n=3.5. The coefficient of electron trapping by Au$^-$ was determined by

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30790
S/181/61/003/011/033/056
B125/B138

9.4177 (1035, 1051)
46.4421

AUTHORS: Morozov, A. I., and Kalashnikov, S. G.

TITLE: Adhesion phenomena in zinc-containing germanium

PERIODICAL: Fizika tverdogo tela, v. 3, no. 11, 1961, 3473-3479

TEXT: The authors investigate photomagnetic effect and photoconductivity in n-type germanium by comparing the lives of carriers as determined from photoelectromagnetic effect (τ_{PEM}), from photoconductivity (τ_{PC}) and from the compensation of photoelectromagnetic and photoconductivity effects under stationary conditions. The same apparatus is used as that described in a previous paper (S. G. Kalashnikov, A. I. Morozov, FTT, 2, 1813, 1960). By using a cryostat with evacuation makes it possible to work with solid nitrogen in some cases. The measurements were carried out under the following conditions: 1) Hall angles low 2) Length of the irradiated part of the sample containing many diffusion lengths; regions in around the contacts shaded for some diffusion lengths; width of sample much greater than its depth (one-dimensional problem). 3) Pairs generated on the surface. The theory of photoconductivity and photoelectromagnetic effects

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are applied to phenomena with linear recombination. In Fig. 1 the typical temperature dependence of τ_{PEM}, τ_{PC} and τ_C is shown for two samples. These three periods are equal at room temperature, but at lower temperatures they are different because of adhesion. The curves for these temperatures have the same character as the curves for copper. Unlike copper, in the case of zinc τ_p is not inversely proportional to the concentration of zinc. Recombination must therefore pass through other centers of whose origin cannot be verified. Fig. 2 shows typical curves for the temperature dependence of the adhesion coefficient. The same values of k are found from the two relations $\tau_{PC} = k\tau_p$ and $\tau_e = k^2\tau_p$ (3), where τ_p denotes the life-time of the minority carriers. k is equal to one at room temperature, but it increases at lower temperatures and reaches values of 10^2-10^3 at liquid-nitrogen temperatures. The temperature region where $k \sim 1$ becomes narrower with increasing zinc concentration, and the absolute values of k increase. Fig. 3 shows the influence of light intensity on τ_{PC} and on the diffusion length L_0 (photoelectromagnetic effect) for one of the

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38913

24.7700

S/181/62/004/006/019/051
B104/B112

AUTHORS: Kurova, I. A., Kalashnikov, S. G., and Tyapkina, N. D.

TITLE: The kinetics of impurity conduction in Au-doped n-type germanium

PERIODICAL: Fizika tverdogo tela, v. 4, no. 6, 1962, 1503 - 1509

TEXT: The trapping of electrons on the E_4 level of gold in Au-doped n-type germanium was investigated at hydrogen temperature. The photoconduction of single-crystal specimens was determined in a He cryostat evacuated to $\sim 10^{-2}$ mm Hg. The heat emission of a crucible furnace was filtered through Ge and Sb-In filters. The damping periods of the photoconduction of the specimens were measured for two different directions of current passage. If the contacts of the samples are of high quality, the damping of photoconduction can be described by $\exp(-t/\tau)$. The coefficients $\alpha_n^=$ of electron trapping on the E_4 level of gold were determined from measured values of τ, using the relation $\tau = (\alpha_n^= N_3)^{-1}$

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

VAVILOV, V.S.; KALASHNIKOV, S.G.

Photoelectric phenomena in semiconductors (Second International Conference on Photoconductivity). Usp.fiz.nauk 76 no.4:749-758 Ap '62. (MIRA 15:7)
(Semiconductors) (Photoconductivity—Congresses)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

S/181/63/005/001/045/064
B108/B180

AUTHORS: Karpova, I. V., and Kalashnikov, S. G.

TITLE: Electron and hole lifetimes in highly doped germanium

PERIODICAL: Fizika tverdogo tela, v. 5, no. 1, 1963, 301-307

TEXT: Continuing earlier work (FTT, 1, 529, 1959) the authors studied the lifetime of the excess carriers in n- and p-type Ge doped with P, Sb, and B, in dependence on the equilibrium concentration of the majority carriers. The doped samples were refined by recrystallization. To find out whether surface recombination and adhesion had any effect, the lifetime was determined by the photoelectromagnetic and photoconductive effects, and from their compensation. Below a majority carrier concentration of $\sim 10^{17}$ cm^{-3} it was also determined from measurements of diffusion length with a linear light probe and a point collector. The results obtained by these four methods agreed with one another within the limits of accuracy. They are slightly temperature dependent. In crystals of both types, after reaching a constant level of 50-60 μsec, from $\sim 1 \cdot 10^{17}$ cm^{-3} the lifetime

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Electron and hole lifetimes ...

falls rapidly with rising concentration, to ~1 μsec at ~10^{18} cm^{-3}. This rapid decrease can be explained qualitatively by the theory of impact recombination on traps, which would also account for the slight temperature dependence. More exact experimental data would be required to prove this quantitatively. Radiative recombination in the fundamental crystal lattice is another possible process, which might fit in with the observed slight temperature dependence. There are 5 figures and 1 table.

ASSOCIATION: Institut radiotekhniki i elektroniki AN SSSR, Moskva (Institute of Radio Engineering and Electronics AS USSR, Moscow)

SUBMITTED: August 13, 1962

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

S/181/63/005/001/048/064
B108/B180

AUTHORS: Yeliseyev, P. G., and Kalashnikov, S. G.

TITLE: The recombinative properties of nickel in germanium

PERIODICAL: Fizika tverdogo tela, v. 5, no. 1, 1963, 320-326

TEXT: To clear up discrepancies in published data on the electron trapping cross sections of Ni and Ni⁻ in p-type Ge, the authors studied the lifetime of the excess carriers in dependence on temperature, nickel concentration, and dislocation density. It was measured by two methods: (1) compensation of the photomagnetic effect by photoconductivity, (2) attenuation of photoconductivity. The results were the same in the range 120 - 330°K. The Ge crystals were doped with nickel by diffusion, either from an electrolytic layer onto the sample's surface or from a solution of nickel in molten lead. The results were qualitatively the same and showed only a slight quantitative difference (20 - 30%). At low Ni concentrations, the lifetime-versus-temperature curve has two plateaus, with the lifetime falling with decreasing temperature in between. As the Ni concentration increases, the curve maintains its two plateaus, but the

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KUROVA, I.A.; KALASHNIKOV, S.G.

Electric instability in germanium. Fiz. tver. tela 5 no.11:3224-3230 N '63. (MIRA 16:12)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

S/181/63/005/004/014/047
B102/B186

AUTHORS: Landsberg, Ye. G., and Kalashnikov, S. G.

TITLE: Recombination properties manganese in germanium

PERIODICAL: Fizika tverdogo tela, v. 5, no. 4, 1963, 1067 - 1076

TEXT: The electron - hole recombination on manganese atoms in n-type germanium single crystals was investigated by two methods: by the stationary photomagnetic effect and photoconductivity, and by the photoconduction attenuation. The crystals investigated were grown according to the Czochralski method (growth axis [111]) and contained antimony with manganese impurities, the latter in concentrations between $8.0 \cdot 10^{15}$ and $1.0 \cdot 10^{15}$ cm^{-3}. The electron concentrations of the samples under investigation were varied between $2.0 \cdot 10^{15}$ and $2.5 \cdot 10^{14}$ and the dislocation densities between $2 \cdot 10^{2}$ and $1.7 \cdot 10^{3}$ cm^{-2}. The hole trapping factor a_p^- for trapping by Mn^{2-} ions was determined at 300°K; it lies between 7.9 and $4.7 \cdot 10^{-10}$ $cm^3 sec^{-1}$ and depends exponentially on the temperature (the exponents vary between 5.1 and 4.2). For trapping by Mn^- ions the electron trapping coefficient

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Recombination properties...

α_n^- lies between 0.5 and $1.8 \cdot 10^{-10}$ $cm^3 sec^{-1}$ (at 300°K) and is a weak temperature function. When the temperature is reduced the Mn^- ions show an adhesion effect for holes. Photoconduction damping in the case of self-excitation leads to a value of α_n^- of the same order of magnitude as the stationary method and verifies the weak temperature dependence. There are 8 figures and 3 tables.

ASSOCIATION: Institut radiotekhniki i elektroniki AN SSSR Moskva (Institute of Radio Engineering and Electronics AS USSR, Moscow)

SUBMITTED: October 26, 1962

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, Sergey Grigor'yevich; VERES, L.F., red.; KOZLOV, V.D., red.

[Electricity] Elektrichestvo. Izd.2., perer. Moskva, Nauka, 1964. 666 p. (MIRA 17:12)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

ACCESSION NR: AP4013502 S/0181/64/006/002/0440/0444

AUTHORS: Zhdanova, N. G.; Kalashnikov, S. G.

TITLE: The effect of temperature on the kinetics of damping impurity photoconductivity in copper doped germanium

SOURCE: Fizika tverdogo tela, v. 6, no. 2, 1964, 440-444

TOPIC TAGS: impurity, impurity photoconductivity, photoconductivity, germanium, copper, copper doped germanium, photoionization, photoionization cross section, capture coefficient, n type germanium

ABSTRACT: This study was made in the temperature interval 60-235K in n-type Ge by electron excitation of the outer copper level with E_c = 0.26 ev. It was found that the temperature coefficient of capture for electrons from this level, throughout the rather wide investigated temperature range, differs appreciably from an exponential relationship, and is best defined by the formula

$$C_n \sim \exp\left(-\frac{T_0}{T}\right)^{1/4},$$

in which full consideration is given to tunnel leakage of electrons through the

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ACCESSION NR: AP4013502

potential barrier of the center. In a number of samples the damping of impurity photoconductivity was defined by two exponents with markedly different time constants. It was found that the time constant of the long exponent was not inversely proportional to n_0, but that the short exponent was. The time constant increased with decrease in intensity of illumination. The authors conclude that the long exponent is not associated with electron capture at the outer Cu level, and, because of this, results of experiments in which this long exponent was observed should not be used. The long exponent was observed in crystals with high dislocation density and with no dislocations. The explanation is not known. For the specimens used it was found that the photoionization cross section of the investigated level is practically independent of temperature. Orig. art. has: 4 figures, 1 table, and 2 formulas.

ASSOCIATION: Institut radiotekhniki i elektroniki AN SSSR, Moscow (Institute of Radio Engineering and Electronics AN SSSR)

SUBMITTED: 03Aug63 DATE ACQ: 03Mar64 ENCL: 00

SUB CODE: PH NO REF SOV: 008 OTHER: 000

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

L 10367-65 EWT(1)/EWG(k)/EWT(m)/EEC(t)/EWP(b) Pz-6 IJP(c)/AFWL/ASD(a)-5/
AS(mp)-2/AFMDC/SSD/ESD(gs)/ESD(t)/RAEM(t) JD/AT

ACCESSION NR: AP4046[illegible] S/0181/64/006/010/3161/3164

AUTHOR: Kalashnikov, S. G.; Morozov, A. I.; Kirillov, V. S.

TITLE: Electrical properties at current saturation in cadmium

SOURCE: Fizika tverdogo tela, v. 6, no. 10, 1964, 3161-3164

TOPIC TAGS: cadmium sulfide, photoconductivity, Hall effect, car-

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

ABSTRACT: The authors investigated n-type crystals, 0.3--0.6 cm long, with a dark conductivity $<10^{7}$ $ohm^{-1}.cm^{-1}$ and a Hall mobility ~250 $cm^{2}.V^{-1}.sec^{-1}$. The electric field was directed either parallel or at right angles to the hexagonal c-axis. Persistent current ob- [illegible] only at field intensities higher than a certain critical value E_{cr} [not specified] and only if the illumination of the crystal was nonuniform. The amplitude of the [illegible]

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tions reached 25% of the total current; the frequency was of the order of 1 Mc and it decreased with increase of the sample length. These persistent oscillations were observed only if the electric field was applied at right angles to the c-axis. Tests using pulsed voltages (of 20--1200 μsec duration) showed that the observed oscil-

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Card 2/3

L 10367-65

ACCESSION NR: AP4046641

[illegible] oscillation frequency. "The authors thank L. A. Sy'soyev for [illegible]." Orig. art. has: 2 figures.

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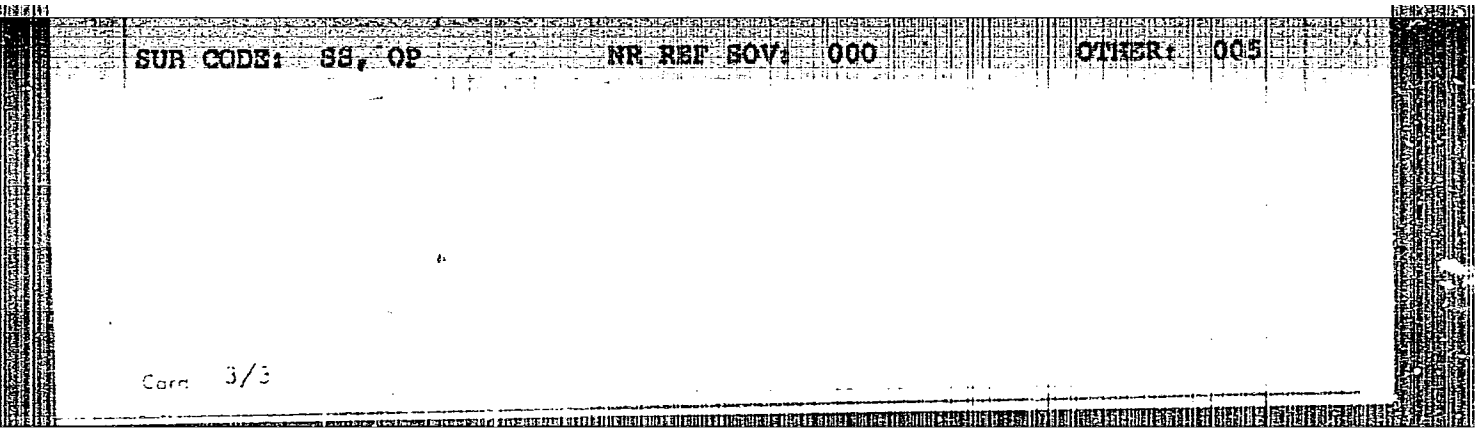

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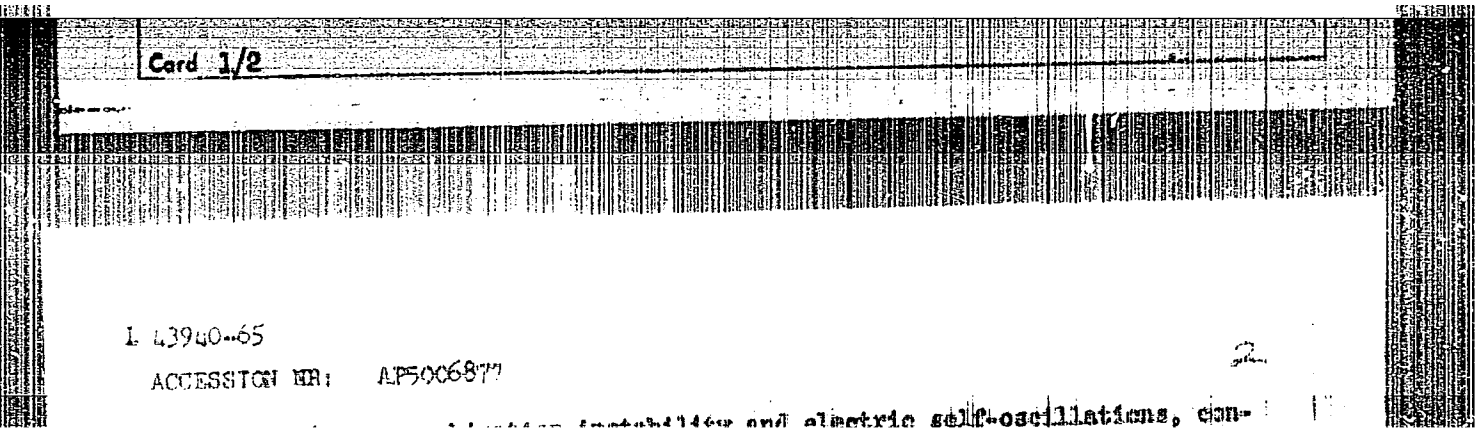

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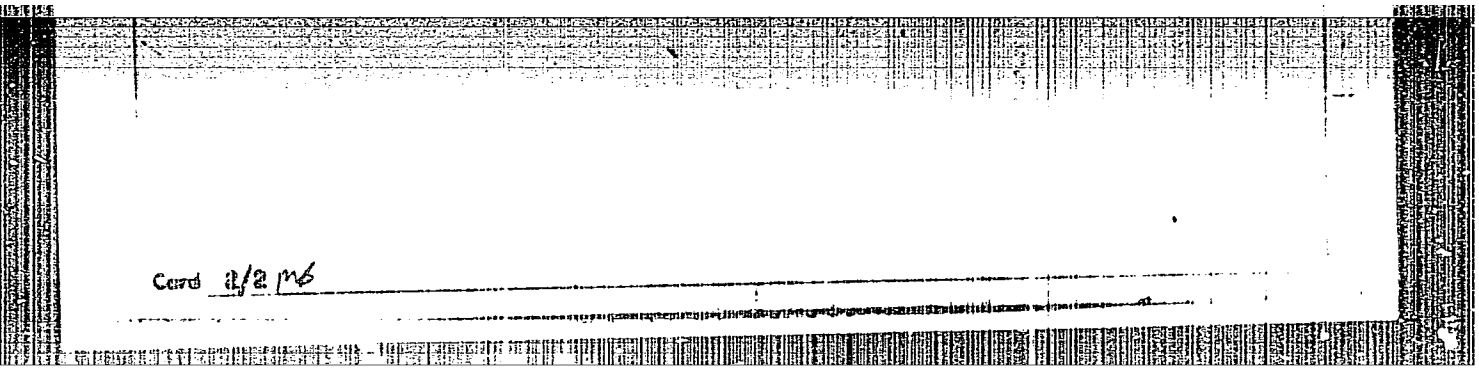

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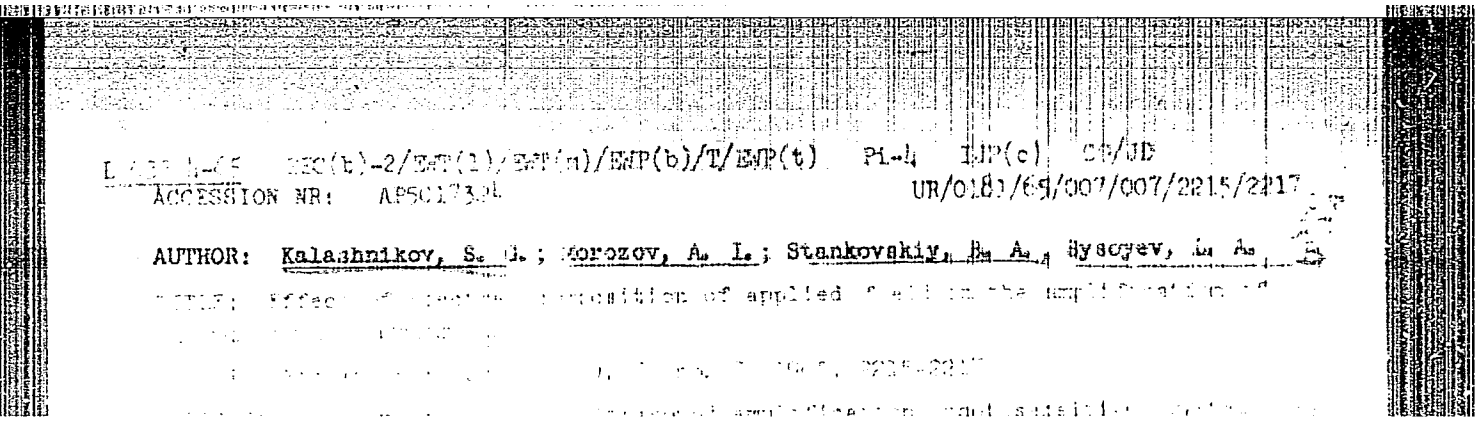

L [illegible]-65 EEC(b)-2/EWT(1)/EWT(m)/EWP(b)/T/EWP(t) Pt-4 IJP(c) CD/JD

ACCESSION NR: AP5017304 UR/0181/65/007/007/2215/2217

AUTHOR: Kalashnikov, S. G.; Korozov, A. I.; Stankovskiy, B. A.; Bysoyev, L. A.

TITLE: Effect of [illegible] acquisition of applied [illegible] in the [illegible]

[illegible]

[illegible]

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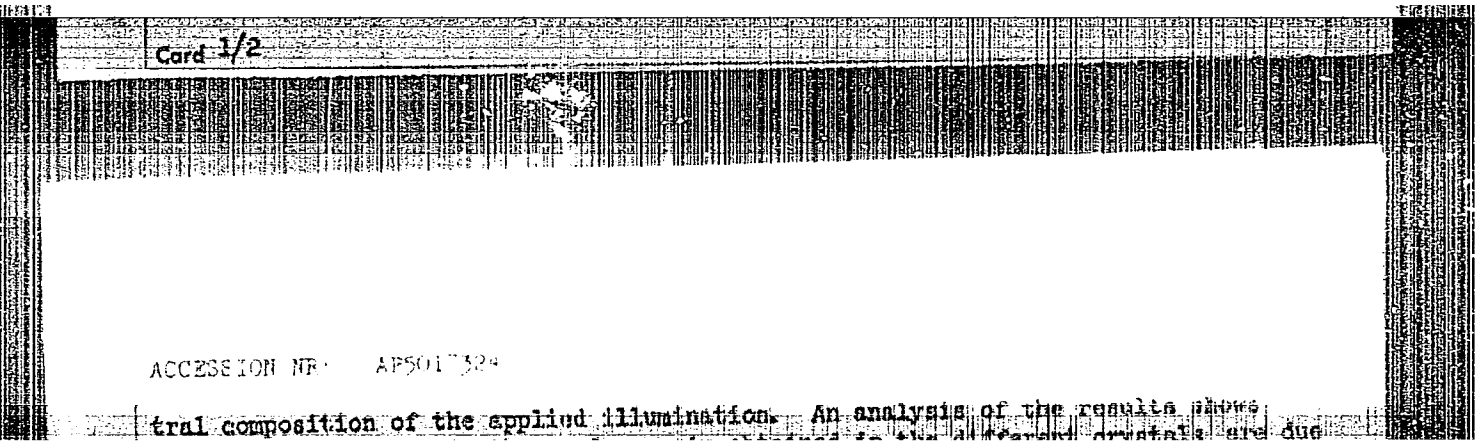

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Card 1/2

L 2404-66 EWT(1)/EWT(m)/EPA(w)-2/EWP(t)/EWP(b)/EWA(m)-2 IJP(c) JD/AT
ACCESSION NR: AP5022469 GE/0030/65/011/001/0415/0428
AUTHOR: Kagan, M. S.; Kalashnikov, S. G.; Zhdanova, N. G.
TITLE: Nonlinear electrical effects and recombination of the hot electrons in compensated germanium
SOURCE: Physica status solidi, v. 11, no. 1, 1965, 415-428
TOPIC TAGS: germanium, semiconductor, hot electron effect, recombination impurity center, capture cross section

ABSTRACT: Steady-state and transient current-voltage characteristics of Cu-doped n-type Ge samples with a partially compensated upper ($E_c - 0.26$ ev) Cu level were investigated in a field which was varied from 1 to 10^4 v/cm. In a field greater than ~100 v/cm the current-voltage curves were found to be sublinear. A study was made of the effect of temperature and of the spectrum of the incident light on the steady state and the kinetics of the photocurrent. Negative dif-

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ACCESSION NR: AP5022469

3

concentration in the conduction band. This was ascribed to the field dependence of a_n, the probability of electron capture by the doubly charged Cu ions. In the strong electric fields the crystals became inhomogeneous due to the formation of strong- and weak-field regions. The possible influence of these inhomogeneities on the nonlinear effects was discussed and the change of d_n in the the strong field was estimated. Orig. art. has: 13 figures and 13 formulas. [CS]

ASSOCIATION: Institute of Radioengineering and Electronics, Academy of Sciences, USSR, Moscow

44,55

SUBMITTED: 05Jul65 ENCL: 00 SUB CODE: SS,EM

NO REF SOV: 006 OTHER: 015 ATD PRESS: 4107

GPC

Card 2/2

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

L 23027-66 EWT(1)/EWT(m)/T/EWP(t) IJP(c) JD/AT

ACC NR: AP6009661 SOURCE CODE: UR/0181/66/008/003/0788/0791

AUTHORS: Zhdanova, N. G.; Kagan, M. S.; Kalashnikov, S. G.

ORG: Institute of Radio Engineering and Electronics, AN SSSR, Moscow (Institut radiotekhniki i elektroniki AN SSSR)

TITLE: Instability of current and electric domains in compensated germanium

SOURCE: Fizika tverdogo tela, v. 8, no. 3, 1966, 788-791

TOPIC TAGS: germanium, photoeffect, crystal structure, semiconductor impurity, electric current

ABSTRACT: This is a continuation of earlier work (Phys. Stat. Sol. v. 11, 415, 1965) where it was found that under certain conditions copper-doped or gold-doped germanium is subject to intense low-frequency current oscillations. The present article deals with the properties and nature of these oscillations in n-type germanium containing copper with a partially compensated upper level, under definite illumination conditions, at nitrogen temperatures, and in fields

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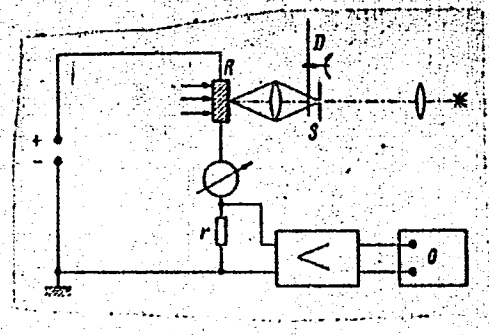

Fig. 1. Diagram of optical probe. R -- sample, r -- load resistance, S -- slit, D -- modulating disc, O -- oscilloscope.

exceeding ~100 v/cm. The measurements were made at 90K. To determine the origin of the oscillations, the time dependence of the resistance distribution over the crystal was measured by means of an optical probe (Fig. 1), whereby a narrow fixed image of an illuminated slit could be focused on different parts of the crystal. The measurements have shown that these oscillations, as in other crystals, is due to the formation and motion of electric domains -- regions with large resistance and strong fields. Unlike observations by others (and in other crystals), in some samples the domains were

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ACC-NR: AP6009661

observed not in the entire crystal, but only in part of the crystal. The velocity of the domain increased with increasing illumination intensity. The period of the spontaneous oscillations of the current is determined by the time necessary for the domain to travel from its place of initiation to the anode. Orig. art. has: 4 figures.

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Card 3/3

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

L 00866-67 T/EWP(t)/ETI IJP(c) JD/AT

ACC NR: AP6024347 SOURCE CODE: GE/0030/66/016/001/0197/0203

AUTHOR: Kalashnikov, S. G.; Bonch-Bruevich, V. L.

ORG: Institute of Radio Engineering and Electronics, Academy of Sciences of the USSR, Moscow

TITLE: On the velocity of space charge waves (electrical domains) in semiconductors

SOURCE: Physica status solidi, v. 16, no. 1, 1966, 197-203

TOPIC TAGS: semiconductor theory, space charge

ABSTRACT: The nonlinear problem of the velocity of space charge waves (electrical domains) which occur when the volume differential resistance becomes negative is studied. Particular attention is paid to the recombination (concentration-controlled) type of instability. A simple explicit formula is obtained for the velocity of stationary space charge waves. The domain velocity is derived for cases in which the Maxwellian relaxation time is much longer or much shorter than the recombination time. In order of magnitude, the results obtained are in agreement with experimental data on domains in Au- and Cu-doped Ge. [Authors thank M. S. Kagan for informing them of his experimental results concerning the domains in Cu-doped Ge and for discussing the manuscript. They also thank Yu. F. Sokolov for discussing the manuscript. Orig. art. has: 1 figure and 22 formulas.

SUB CODE: 20/ SUBM DATE: 18Apr66/ ORIG REF: 009/ OTH REF: 014

Card 1/1 LS

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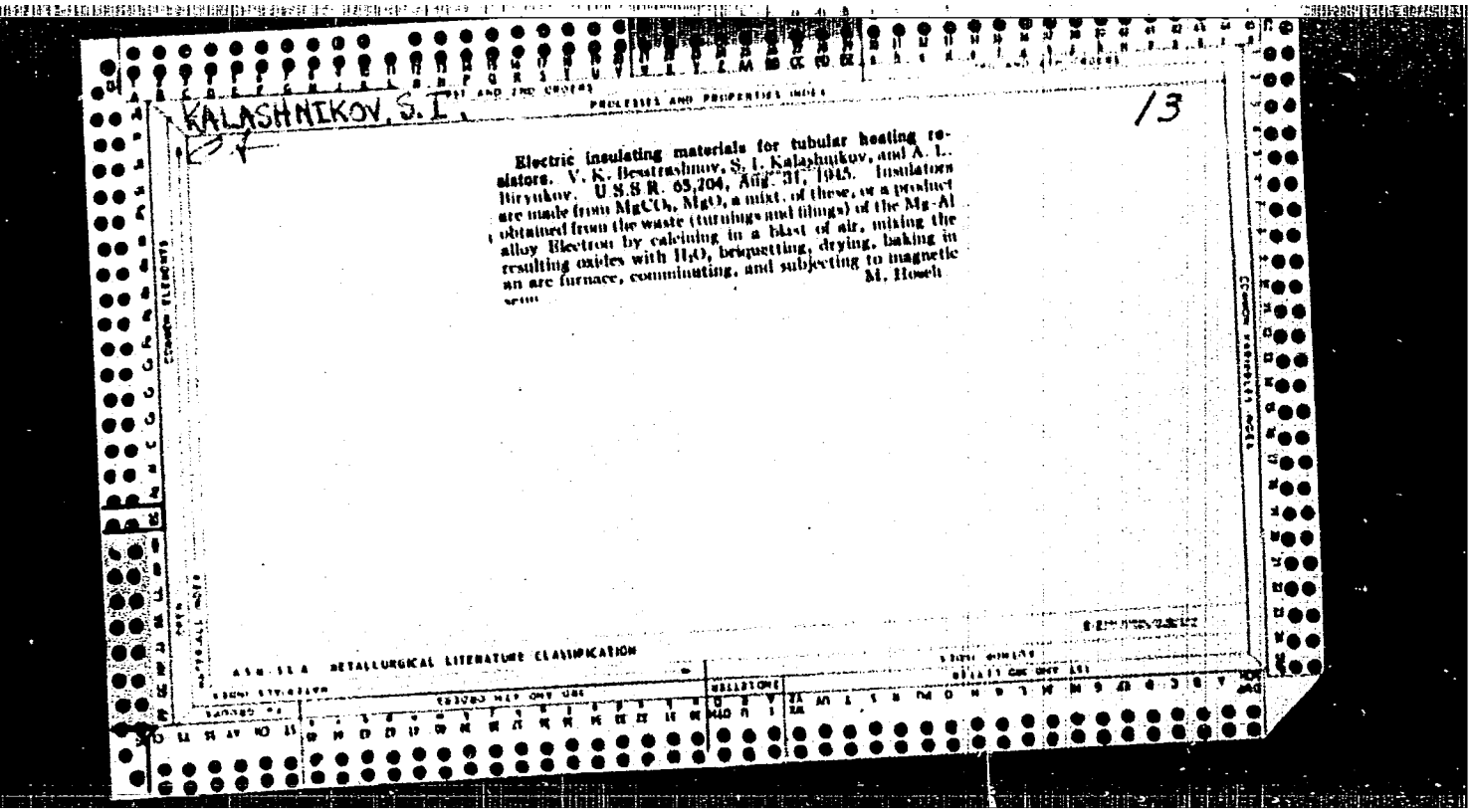

KALASHNIKOV, S. I.

13

Electric insulating materials for tubular heating resistors. V. K. Beatrashnov, S. I. Kalashnikov, and A. L. Biryukov. U.S.S.R. 65,204, Aug. 31, 1945. Insulators are made from $MgCO_3$, MgO, a mixt. of these, or a product obtained from the waste (turnings and filings) of the Mg-Al alloy Electron by calcining in a blast of air, mixing the resulting oxides with H_2O, briquetting, drying, baking in an arc furnace, comminuting, and subjecting to magnetic

M. Hoseh

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV S.I.

KALASHNIKOV, S.I.; OBEROV, L.Ya.

Vibration apparatus for mechanical loading and unloading of paint grinder mills. Khim. prom. no.6:376-377 S '57. (MIRA 11:1)

1.Khimicheskiy zavod imeni Oktyabr'skoy revolyutsii, Rostov na-Donu.
(Paint industry--Equipment and supplies)
(Loading and unloading)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

Kalashnikov, S.I.

32-7-13/49

AUTHORS Kalashnikov S.I., Kichin N.P.,

TITLE **Perfecting of the method of Color Defectoscopy** (Usovershenstvovaniye metoda tsvetnoy defektoskopii-Russian)

PERIODICAL Zavodskaya Laboratoriya, 1957, Vol 23, Nr 7, pp 806-808 (U.S.S.R.)

ABSTRACT The mixture of petroleum transformer oil and turpentine is suited only for the treatment of materials of coarse-grained structure as red point. For the determination of extremely small tracks as well as of the intercrystalline corrosion of materials with fine-grained structure it was necessary to find a suitable mixture. Suchs paints were examined as to their ability of resisting light, their adhesive and other properties. It was found that such paints must contain large quantities of benzene and oil. A mixture based upon collodium was found to be favorable. As admixtures to zinc oxide, zinc white and benzene are recommended. The following color compositons are recommended in this paper for defectoscopy: Sudan red 4: 2:95 ml benzene, 5 ml / MK 8/-oil, 1 g red paint. White: 7:7o ml collodium in a spirit-ether solution (for instance colloid oxiline.). (64 units colloxiline, 76 units sulphuric ether, 2o units of rectified spirits). In addition: 1o ml diluter "RDV" or acetone, 2o ml benzene, 5 g zinc white MO per 1oo ml of the mixture. The suggested method proved to be successful.
There are 2 figures.

AVAILABLE Library of Congress.

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

LEYKAND, Mikhail Solomonovich; KALASHNIKOV, S.I., red.; BORUNOV, N.I., tekhn.red.

[Design of induction vacuum furnaces and their parts and attachments] Konstruktsii induktsionnykh vakuumnykh elektropechei i ikh uzlov. Moskva, Gos.energ.izd-vo, 1960. 95 p. (Biblioteka elektrotermista, no.4). (MIRA 14:2)
(Electric furnaces)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

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KALASHNIKOV, S.I.

PHASE I BOOK EXPLOITATION SOV/4535

Vsesoyuznyy sovet nauchno-tekhnicheskikh obshchestv

Mezhkristallitnaya korroziya i korroziya metallov v napryazhennom sostoyanii (Intercrystalline and Stress Corrosion of Metals) Moscow, Mashgiz, 1960. 358 p. 3,000 copies printed.

Ed.: I.A. Levin, Candidate of Technical Sciences; Ed. of Publishing House: I.I. Lesnichenko, Engineer; Tech. Ed.: V.D. El'kind; Managing Ed. for Literature on Metalworking and Instrument Making (Mashgiz): V.V. Rzhavinskiy, Engineer; Editorial Board: I.A. Levin, Candidate of Technical Sciences (Chairman), V.P. Batrakov, Candidate of Technical Sciences, V.M. Nikiforova, Candidate of Technical Sciences, and A.V. Turkovskaya, Candidate of Technical Sciences.

PURPOSE: This collection of articles is intended for technical personnel concerned with problems of corrosion of metals.

COVERAGE: The collection contains discussions of intercrystalline corrosion of stainless steels and stress corrosion of carbon steels, low-alloy and stainless steels, and light-weight and nonferrous alloys. The tendency of steels of various composition and system to corrode under certain conditions is discussed and the nature of corrosion and corrosion cracking is analysed. No personalities are mentioned. Most of the articles are accompained by bibliographic references, the majority of which are Soviet.

V. STRESS CORROSION OF LIGHTWEIGHT AND NONFERROUS ALLOYS

Tomashov, N.D., Doctor of Chemical Sciences, Professor, and V.N. Modestova, Candidate of Chemical Sciences. Effect of Stress on the Corrosion and Potentials of the Magnesium-Manganese Alloy System 273

Timonova, M.A., Candidate of Technical Sciences. The Nature of Corrosion Cracking of Magnesium Alloys and Protective Measures 289

Romanov, V.V., Candidate of Chemical Sciences. Effect of Certain Factors on the Tendency of Magnesium Alloys Toward Corrosion Cracking 312

Mokhov, V.M. Stress Corrosion of the High Electrical Resistance Manganese-Base Alloy 318

Volchkova, L.M., V.D. Flyasunov, and A.I. Krasil'shchikov. Effect of Mechanical Strains on the Electrode Potential of Copper 321

Bobylev, A.V., Candidate of Technical Sciences. The Tendency of Copper Alloys to Crack Depending Upon Their Composition 329

Klark, G.B., Candidate of Chemical Sciences. Corrosion Cracking of Brass in Various Climatic Zones of the USSR 345

[Otdel korrozii Instituta fizicheskoy khimii AN SSSR (Corrosion Department of the Institute of Physical Chemistry AS USSR) and Giprotsvetmetobrabotka (State Design and Planning Scientific Research Institute for Working of Nonferrous Metals) conducted joint research on this subject. A. Ye. Gopius, Candidate of Technical Sciences and Yu. A. Smirnova, Senior Scientific Worker, participated in the work on behalf of the latter institute.]

Gopius, A. Ye., Candidate of Technical Sciences, and Yu. A. Smirnova, Senior Scientific Worker. On the Problem of Short-Time Testing of Brass Resistance to Corrosion Cracking 349

Kalashnikov, S. I., and N. P. Kichin, Engineers. Detection of Intercrystalline Corrosion in Aluminum Alloys with the Dye Penetrant Flaw Detection Method. 33

[illegible] by measuring the Internal Friction 152

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

86059

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A004/A001

1.9600

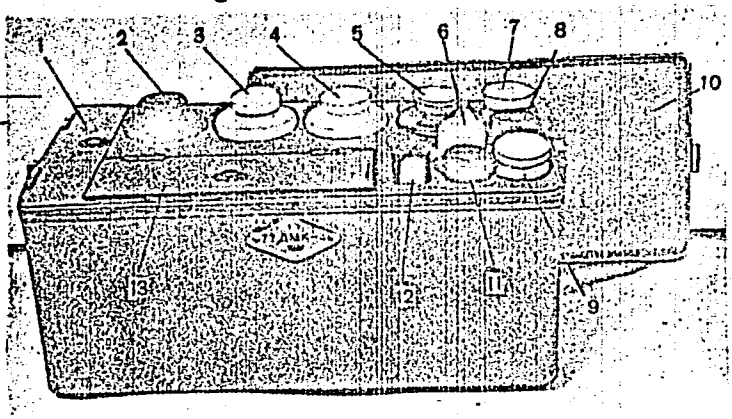
AUTHOR: Kalashnikov, S. I.

TITLE: The Portable 77ДМК-3 (77DMK-3) Flaw Detector

PERIODICAL: Byulleten' tekhniko-ekonomicheskoy informatsii, 1960, No. 10, pp.35-37

TEXT: In 1959 the Nauchno-issledovatel'skiy institut ekspluatatsii i remonta aviatsionnoy tekhniki VVS (Scientific Research Institute for the Operation and Repair of Aircraft Equipment VVS) manufactured a portable 77DMK-3 flaw detector for the detection of surface defects on machine parts by the color flaw detection method. The illustration shows the flaw detector carried

Figure 1:



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The Portable 77ДМК-3 (77DMK-3) Flaw Detector

out in the shape of a suitcase.

Figure 1:

1 compartment for the paint sprayer; 2 - can with red paint reserve; 3 - can with stock of РДВ(RDV) diluent; 4 - can with white paint stock; 5 - can with oil-kerosene mixture; 6 - case with brushes; 7 - can with RDV diluent ready-for-use; 8 - can with ready-for-use red paint; 9 - can with ready-for-use white paint; 10 - lid of flaw detector; 11 - case with brushes for red paint; 12 - calibrating device with grinding cracks; 13 - compartment for keeping the magnifying glass, rags, gloves and instruction manual.

To expose defects, red paint with a great penetrability is applied to the preliminary cleaned surface of the component. Under the effect of capillary forces the paint penetrates into narrow cracks. Then the paint is removed from the surface by a rag slightly wetted with the transformer oil and kerosene mixture. This mixture, removing the red paint only from the surface, protects the paint pentrated into the defect (crack). Then the white paint, which is capable of adsorbing and pull out the red paint from the crack, is applied to the surface. After some time, a red pattern shows on the white ground, indicating the shape and location of the defects. The white and red paints can be used at temperatures form +5 to -40°C. The overall dimensions of the flaw detector are (length x width x height);

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S/193/60/000/010/009/015
A004/A001

The Portable 77ДМК-3 (77DMK-3) Flaw Detector

380 x 170 x 180 mm; its weight, completely equipped, amounts to 6 kg. At temperatures of the component in the range of +15 to +25 the paints make it possible to detect cracks on steel parts having a depth of at least 0.01 mm and a width (on the surface) of not less than 0.004-0.006mm. There is 1 figure.

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APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

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SVENCHANSKIY, Aleksandr Danilovich; KALASHNIKOV, S.I., red.; SHIROKOVA, M.M., tekhn. red.

[Efficient use of electric resistance furnaces] Puti ratsional'noi ekspluatatsii elektricheskikh pechei soprotivleniia. Moskva, Gos. energ.izd-vo, 1961. 78 p. (Biblioteka elektrotermista, no.6) (MIRA 14:12)

(Electric furnaces)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

BADMAS, Aleksandr Markovich; KULINICH, Valentin Aleksandrovich; SHAPIRO, Semen Vol'fovich; KALASHNIKOV, S.I., red.; LARIONOV, G.Ye., tekhn. red.

[Electromagnetic static frequency and phase number converter] Statisticheskie elektromagnitnye preobrazovateli chastoty i chisla faz. Moskva, Gos.energ.izd-vo, 1961. 207 p. (MIRA 14:12)
(Frequency changers) (Phase converters)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

TIKHOMIROV, Pavel Mikhaylovich; KALASHNIKOV, S.I., red.; BUL'DYAYEV, N.A., tekhn. red.

[Design of electric transformers]Raschet transformatorov. Izd.2., perer. i dop. Moskva, Gosenergoizdat, 1962. 431 p. (MIRA 16:3)
(Electric transformers)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, S.I.; KAMCHENKO, A.F.

Method of fixing magnetic powder on the surface of a part. Zav.lab. 29 no.3:314 '63. (MIRA 16:2)
(Magnetic materials)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

MAKSIMOV, Aleksandr Aleksandrovich; KALASHNIKOV, S.I., red.; FRIDKIN, L.M., tekhn. red.

[Economy of thermal energy in industrial enterprises] Ekonomiia teplovoi energii na promyshlennykh predpriiatiiakh. Moskva, Gosenergoizdat, 1963. 117 p. (MIRA 17:1)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, S.I.; MOROZOV, A.I.; KIRILLOV, V.P.

Electric oscillations due to current saturation in cadmium sulfide. Fiz. tver. tela 6 no.10:3161-3164 O '64.
(MIRA 17:12)

1. Institut radiotekhniki i elektroniki AN SSSR, Moskva.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, S.N.

Existing machine tools do not permit an accelerated cutting of helical bevel gears. Avt.trakt.prom. no.8:23-26 Ag '53. (MLRA 6:8)

1. Moskovskiy avtozavod im. Stalina. (Gear-cutting machines)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, S.N.

Device for measuring errors in the pitch of bevel gears. Avt.trakt. prom. no.9:30-31 S '54. (MLRA 7:10)

1. Moskovskiy avtozavod imeni Stalina.
(Gearing, Bevel)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, S. N.

KALASHNIKOV, S. N.: "Investigation of technological factors in the cutting of conic wheels with curvilinear teeth". Moscow, 1955. Min Higher Education USSR. Moscow Automotive Mechanics Inst. (Dissertations for the Degree of Candidate of Technical Sciences)

SO: Knizhnaya letopis', No. 52, 24 December, 1955. Moscow.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, S.N., kandidat tekhnicheskikh nauk.

Rough tooth milling of spiral-conical drive wheels in the direction of delivery. Avt.i trakt.prom. no.4:35-39 Ap '56. (MLRA 9:8)

1. Moskovskiy avtozavod imeni Stalina.
(Milling machinery)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, S.N.

PETUKHOV, S.P.; KALASHNIKOV, F.F.; PROROKOV, V.I.; KALASHNIKOV, S.N.; SMIRNOV, G.P.

Broaching machine for cutting bevel gears. [Suggested by Petukhov, S.P.; Kalashnikov, F.F.; Prorokov, V.I.; Kalashnikov, S.N.; Smirnov, G.P.] Prom.energ. 12 no.10:20-21 O '57. (MIRA 10:10)
(Metalworking machinery)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

AUTHOR: Kalashnikov, S.N., Candidate of Technical Sciences 113-58-6-14/16

TITLE: Adaptation of a 12-Inch Head Instead of a 9-Inch Head for the Rough Cutting of Helical Bevel Gears (Primeneniye 12-dyuymovoy golovki vmesto 9-dyuymovoy pri chernovom narezanii spiral'no-konicheskikh koles)

PERIODICAL: Avtomobil'naya promyshlennost', 1958, Nr 6, pp 39-42 (USSR)

ABSTRACT: As a result of experimental work carried out by the Moscow Automobile Plant imeni Likhachev, more rational models of cutter heads were adapted for production. The aim was to increase the effectiveness of the cog-cutting process of spiral bevel gears. The methods of duplicating and spinning were tested, as well as rough and finish cuttings. In rough cutting by the duplication method, three cutter heads were better than the bilateral, and in the spinning method - cutter heads of clockwise rotation - better than those of counter clockwise rotation and the resistance of the instrument was increased by 70 %. In the finish cutting by bilateral cutting of heads by each method, the higher exactness of the process, the least expenditure of power and quick-cutting of the steel is obtained by the cutter heads in which only one cutter takes part in the process and not two and then one successively. For finish cut-

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

Adaptation of a 12-Inch Head Instead of a 9-Inch Head for the Rough Cutting of Helical Bevel Gears

ting, one sided cutter heads of clockwise rotation must be used. Their resistance is almost twice as high as that of counter clockwise rotating heads. The analytical and graphic comparison of various cutter heads used in the 1160-ZIL bench showed that the productivity of the 1160-ZIL bench increased by 35% and the head resistance increased 2.5 times when the 12-inch cutter head of clockwise rotation replaced the 9-inch head of counter clockwise rotation. The resistance of finishing cutter heads and the exactness of the cutting of cogs is identical with both 12 and 9-inch cutter heads.
There are 4 graphs, 1 table and 1 figure.

ASSOCIATION: Moskovskiy avtozavod imeni Likhacheva (The Moscow Automobile Plant imeni Likhachev)

 1. Gears--Production--Processes 2. Cutting tools--Effectiveness

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

PHASE I BOOK EXPLOITATION SOV/4633

Kalashnikov, Sergey Nikiforovich, Candidate of Technical Sciences

Opyt primeneniya ratsional'nykh konstruktsiy reztsovykh golovok (Experience in the Use of Efficient Designs of [Gear] Cutters) Moscow, Mashgiz, 1960. 121 p. 5,000 copies printed.

Ed. of Publishing House: I. I. Lesnichenko; Tech. Eds.: A. F. Uvarova and G. V. Smirnova; Managing Ed. for Literature on Metalworking and Machine-Tool Construction: V. I. Mitin, Engineer.

PURPOSE: This book is intended for designers, technicians, and foremen in gear cutting.

COVERAGE: Problems connected with the selection of basic parameters for blades and face-milling cutters for curved-tooth bevel gears are discussed. The author presents results of investigations and experience gained in the use of various cutters for roughing and finishing gears by the generating and copying methods. Designs of cutters described in the book have been introduced into production at the Avtozavod imeni Likhacheva (Automobile Plant im. Likhachev).

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

YAKIMANSKIY, V.V., kand.tekhn.nauk; SHLYAPIN, N.A.; KIRICHINSKIY I.I.; SHKLYAROV, I.N.; KALASHNIKOV, S.N., kand.tekhn.nauk

Using new techniques of hot rolling of teeth in making spiral bevel gears. Avt.prom. no.9:39-43 S '60. (MIRA 13:9)

1. Nauchno-issledovatel'skiy institut tekhnologii avtomobil'noy promyshlennosti i Moskovskiy avtozavod imeni Likhacheva.
(Gear shaping machines)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, S. N.

18.5200 8/113/60/000/009/004/005
A002/A001

AUTHORS: Kalashnikov, S. N., Candidate of Technical Sciences, Shlyakin, N. A., Kalashnikov, I. P., Shlyakov, I. P., Kalashnikov, A. S., Candidates of Technical Sciences

TITLE: A New Technology of Manufacturing Helical Bevel Gears Using the Method of Hot Knurling of Teeth

PERIODICAL: Avtomobil'naya promyshlennost', 1960, No. 9, pp. 39-43

TEXT: The technology and the equipment used for the manufacture of helical bevel gears by hot knurling is described. This new production process and problems connected with it were investigated by the Nauchno-issledovatel'skiy Institut tekhnologii avtomobilnoy promyshlennosti (Scientific Research Institute of Automobile Industry Technology) in cooperation with the Moskovskiy Avtomobil'nyy Zavod imeni Likhachev. Here the manufacture of helical bevel gears of 3M-57 (ZIL-157) and [Abstracter's note: illegible] (AZ-51 (UAZ-51) vehicles, the new technology will result in a saving of 4 kg of A157 steel per gear. The equipment formerly used for preliminary cutting of the gear teeth is no longer necessary. The capital expenditures required for the special equipment are paid off within 1 to 1.5 years.

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The new method of generating gear teeth consists in the successive local intersection of the surface layer of the gear blank, heated to a plastic state by high-frequency induction current. The deformation is effected by a gear knurling tool during the shape of a bevel gear. The coordinated rotation of the blank and the tool during the teeth knurling process ensures a rigid and short kinematic chain, which is one of the most important features of a gear knurling machine. The research into hot knurling of helical bevel gears was performed on an experimental gear knurling machine (shown in Fig. 2). Formulae are given for calculating the force required for gear teeth knurling. The induction heating system is described. A VChG-100/2500 (VCHG-100/2500) 100-kw high-frequency generator is used for this purpose; its operating frequency is 2,500 cps. The principal circuit diagram is given (Fig. 5). Previous work made it the experimental teeth knurling machine for performing the knurling operation under shielding gas. Graphite lubrication of the teeth of the knurling tool has a favorable effect on the tooth shaping process. Furthermore, the shape and the dimensions of the gear blank are of great importance. The gear blank is produced by stamping, for example from 10KhNA (10KhSNA) steel. It is machined on a

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lathe prior to hot knurling of the gear teeth. Heat treatment after the knurling operation is necessary, since the gear teeth have been hardened during the cooling-off period immediately after knurling. After tempering, the gears are machined on a lathe and on a grinding machine and are finished on a gear broaching machine. The final operations are the same as those used in the manufacture of helical bevel gears by conventional methods. After the final heat treatment, the depth of the hardened layer amounts to 1.2-1.5 mm and its hardness RC 54-58, while the hardness of the teeth cores is RC 35-40. The structure of the hardened layer contains martensite and residue austenite, thus existing requirements are met. The precision of helical bevel gears manufactured according to this method is not below that of gears manufactured according to conventional methods, while their strength characteristics are even higher according to tests performed at the Moskovskiy Avtomobilnyy Zavod imeni Likhachev. The entire teeth knurling process (not counting the time required for mounting the blank) lasts about 1.5 minutes. In conclusion it is said that the method of knurling of gear teeth should be used in automobile, tractor and other machinebuilding plants because of its advantages. There are 8 figures.

ASSOCIATION: NIITavtoprom (Research Institute of Automobile Industry Technology) and Moskovskiy Avtomobil'nyy zavod imeni Likhachova (Moscow Automobile Plant imeni Likhachev)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, S.N., kand. tekhn. nauk; NOVIKOV, N.S.

Increasing the efficiency of machining splined shafts. Avt. prom. 29 no.7:37-40 Jl '63. (MIRA 16:8)

1. Moskovskiy avtozavod imeni Likhacheva.
(Milling machines)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, S.N.; KOGAN, G.I.; KOZLOVSKIY, I.S.; KORZINKIN, V.I.; MARKOV, N.N.; SYROYEGIN, A.A.; TAYTS, B.A., prof., doktor tekhn. nauk, red.; TROFIMOVA, Ye.I., kand. tekhn. nauk, retsenzent; IVANOVA, N.A., red.izd-va; EL'KIND, V.D., tekhn. red.

[Manufacture of gear wheels] Proizvodstvo zubchatykh koles; spravochnik. [By] S.N.Kalashnikov i dr. Moskva, Mashgiz, 1963. 683 p. (MIRA 16:12)

(Gearing)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, S.N., kand.tekhn.nauk; GLUKHOV, I.I.

Efficient cutter head for finish machining of bevel gear teeth. Avt.prom. 30 no.1:32-35 Ja '64. (MIRA 17:3)

1. Moskovskiy avtozavod imeni Likhacheva.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, S.N., kand.tekhn.nauk; ORLOV, I.V., inzh.

Manufacturing high-precision cylindrical gear wheels under mass production conditions. Vest.mashinostr. 44 no.7:43-49 Jl '64. (MIRA 17:9)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, S.N., kand. tekhn. nauk; GLUKHOV, I.I.

Increasing the efficiency of rough cutting of spiral-bevel pinion gears. Avt. prom. 31 no.2:33-36 F '65. (MIRA 18:3)

1. Moskovskiy avtozavod imeni Likhacheva.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, S.N., kand.tekhn.nauk; TROFILEYEV, N.N.

Advanced technology for machining gear-wheel teeth of the distributing shaft of the ZIL-130 engine. Avt.prom. 31 no.10:33-36 O '65. (MIRA 18:10)

1. Moskovskiy avtozavod imeni Likhacheva.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, T.N.

School dairy.Politek.obuch. no.9:82 S '59.
(MIRA 12:12)

1. Noshovskaya srednyaya shkola Yelovskogo rayona Permskoy oblasti.
(Dairying--Study and teaching)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, V.

Teaching aid on organization of the food trade ("Organization and techniques of the food trade" by P.A. Mel'nichuk, G.L. Chernov, K.G. Shmerling. Reviewed by V. Kalashnikov). Sov. torg. no.4:54-56 Ap '58. (MIRA 11:4)

(Food industry)
(Mel'nichuk, P.A.) (Chernov, G.L.)
(Shmerling, K.G.)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV V.

USSR/Electronics - Phonographs Apr 52
Pickups

238T65

"The Quality of Phonograph Pickups," V. Kalashnikov, Council Member, Ufa Dosaaf Radio Club

"Radio" No 4, pp 58-59

Most widely-used pickups are the "Zvezda" electromagnetic type complete with arm (produced by the RAAZ plant of the 'Muzradiosoyuz' and the Sverdlovsk Raypromtrest), the PZ-1 and AFR crystal pickups with

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arm, and also the electromagnetic "Akkord" and AD-1 and the crystal AFR separate pickups. External appearance and sound reproduction is poor in all types, and a competition for better pickup types should be conducted.

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

Kalashnikov, V.

KALASHNIKOV, V.

Triumph of the Party in reclaiming virgin and waste lands. Muk.-elev. prom. 23 no.11:4-6 N '57. (MIRA 11:1)

1. Zamestitel' ministra khleboproduktov RSFSR.
(Reclamation of land) (Grain)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

38261 KALASHNIKOV, V.

Vypolnili slovo, dannoye Vozhdyu. (O dosrochnom vypolnenii gos. plana khlebozagotovok. ukr. SSR). Zagotovki s.-kh. produktov, 1949, No 2, s. 15-19

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, V.

Higher technical education section of the Moscow Mathematical Society. Usp.mat.nauk 12 no.2(74):235-236 Mr-Ap '57. (MIRA 10:7)
(Moscow--Mathematics)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

AUTHOR: Kalashnikov, V. SOV/84-58-8-43/59

TITLE: About the General Layout of Helicopters (O vneshney komponovke vertoletov)

PERIODICAL: Grazhdanskaya aviatsiya, 1958, Nr 8, p 31 (USSR)

ABSTRACT: According to the editor's note, this letter is one of many dealing with certain deficiencies in the trim and controllability of Mi-1 and Mi-4 helicopters. This author is concerned with such problems as the changeover of plug-ins for airfield electric power, compressed air, and fuel and oil to the left side of the fuselage thus making it easier for the pilot to watch operations. It is recommended that cargo and work compartments be placed nearer the rotor axis for better stability during loading and unloading while hovering; at present, every movement of cargo or men destroys the balance of the helicopter. For the same reason the direction of the rotation of the rotor should be reversed, i.e., made to rotate counterclockwise when looked at from above. The stabilizing propeller should be rotated clockwise if looked at from the left side to compensate for list caused by the rotor.

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, V.; POPOV, V.

Experiment in the calculation of labor requirements in production in the Svetogorsk Woodpulp and Paper Combine. Trudy LTITSBP no.15:160-165 '65.

(MIRA 18:8)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

L 44381-66 EWT(m)/T DJ

ACC NR: AP6022405 (A) SOURCE CODE: UR/0317/66/000/002/0046/0049

55
51
B

AUTHOR: Goryacheva, V.; Kalashnikov, V.; Shekhter, Yu.

ORG: none

TITLE: New lubricants and additives

SOURCE: Tekhnika i vooruzheniye, no. 2, 1966, 46-49

TOPIC TAGS: liquid metal lubricant, lubricant additive

ABSTRACT: Soviet industry has recently developed and is producing serially the following inhibiting liquid lubricants: 1) NG-203 (A, B, C—which differ in viscosity and inhibitor content). The inhibitor is a concentrate of calcium sulfonate. Brands B and C which are the more liquid serve to lubricate the internal parts of machines, machine tools and instruments. Brand A is recommended for the external surfaces; 2) NG-204 and NG-204u are used for equipment exposed to precipitation. NG-204 is recommended for surfaces of complex shape, NG-204u for external surfaces (casings,

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ACC NR: AP6022405

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housings); 3) K-15, K-17 and K-19. The components, state at various temperatures, viscosity, and other characteristics of all the lubricants are given in two tables. The "Neftegar" Plant in Moscow has developed the anticorrosion additive inhibitor "AKOR-1" which improves the protective properties of motor oils. Orig. art. has: 2 tables.

[DW]

SUB CODE: 11/ SUBM DATE: none/ [illegible] OTH REF: none/

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, V. A. and VIN'KOV, M. P.

"Experience in Operating the EV-80-3 Electronic Computer" a paper presented at the Conference on Methods of Develppment of Soviet Mathematical Machine-Building and Instrument-Building, 12-17 March 1956.

Translation No. 596, 8 Oct 56

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

AUTHORS: Kalashnikov, V. A., Krassov, I. M., Petrov, V. V. SOV/119-58-8-2/16

TITLE: On the Evaluation of Servomechanisms (Ob otsenke i sravnenii servomekhanizmov)

PERIODICAL: Priborostroyeniye, 1958, Nr 8, pp. 7 - 10 (USSR)

ABSTRACT: A servomechanism is a device for magnifying power output, which makes use of a foreign source for the purpose of increasing energy (Refs 1 and 2). A weak control signal is to be modeled at its output, which had been fed in at its input with errors being kept as small as possible.
On the basis of an electrohydraulic control mechanism it is shown to what extent its dynamic and static characteristics correspond to constructional directives given, and in what way the mechanism fulfills its task within the framework of the entire process of control.
Particular care must be taken in order that a servo-mechanism with such an amplitude-phase characteristic be selected in the case of which the dynamics of the mechanism exercises hardly any influence upon the constancy of work and the process of

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control.
The operation of a servo-mechanism is characterized by the following indices:
1) Energetic indices as e.g.:
a) control output, b) the work of control, c) the maximum effective power output, d) nominal stress, e) maximum stress.
2) Static indices as e.g.:
a) the course taken by the static characteristic, b) the nominal velocity of displacement, c) the nominal amount of the control signal, d) the zone of insensibility.
3) Dynamic indices.
These indices characterize processes of transmission in servo-mechanism when a single shock-like action brings about a change from without, or if a sinusoidal modification of the external action influences the phenomenon of motion in the servo-mechanism.
Such indices are: a) the time of supply, b) the time needed for re-establishing the normal velocity of displacement, c) time of slowing down, d) reaction time of the servo-mechanism, e) the time constant of the servo-mechanism.

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

On the Evaluation of Servomechanisms SOV/119-58-8-2/16

There are 6 figures and 7 references, which are Soviet.

1. Servomechanisms--Effectiveness 2. Servomechanisms--Control systems 3. Control systems--Performance

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, V.A.

Moscow. Vychisl. tekhnicheskoye uchilishche imeni Baumana. Kafedra matematicheskikh mashin

Vychislitel'naya tekhnika (Computer Techniques) Moscow, Mashgiz, 1959. 153 p. (Series: Moscow. Vysshaye tekhnicheskoye uchilishche. Sbornik, No. 2) 2,500 copies printed.

Ed.: B.V. Anisimov, Candidate of Technical Sciences; Tech. Eds.: B.I. Kodel' and A.F. Dyarova; Managing Ed. for Literature on Machine Building and Instrument Construction: M.V. Pokrovskiy, Engineer.

PURPOSE: This book may be useful to Aspirants and other students specializing in computer technology, and also to designers and engineering and technical personnel who make use of electronic computers.

COVERAGE: The book is a collection of articles dedicated to the 40th anniversary of the School imeni Bauman) in honor of the 40th anniversary of the October Revolution. The articles contain the results of theoretical and experimental studies on the performance of various components of electronic computers. Among the topics discussed are program storage, control devices, the connection between the parameters of an algorithm and a machine, etc. The application of these components to the control of technological processes is also discussed. (Anisimov, B.V., Cand. Tech. Sci/ and V.N. Golubkin, Candidate of Technical Sciences. Analysis of the Quality of Servo Systems With Discrete Element 32

Dobrov, Ye.V., Engineer. The Effect of Block Diagram Parameters on the Performance Quality of a Tubeless Direct Current Operational Amplifier 46

Anisimov, B.V., Candidate of Technical Sciences, V.N. Golubkin, Candidate of Technical Sciences, and Yu.M. Dovzhenko, Engineer. Device for Training the Form of Recording of a Program 56

Candidate of Technical Sciences, and Ye.P. Nekrylov, Engineer. Certain Principles of Constructing Local Control by Automatic Devices 21

Trubnikov, N.K. Candidate of Technical Sciences, and Yu.K. Yefremov, External Memory Devices

Vissenko, V.I., Candidate of Technical Sciences, G.S. Zhdanov, Professor, A.M. Desnitskiy, Engineer, and I.M. Antonov, Engineer. Method of Forming the Images of Numbers by Means of a Ferrite Matrix 64

Shreyder, Yu.A., Candidate of Physical and Mathematical Sciences. The Connection Between the Parameters of an Algorithm and of a Machine 70

Anisimov, B.V., Candidate of Technical Sciences, V.N. Golubkin, Candidate of Technical Sciences, and A.Ya. Savelyev, Engineer. Device for the Control of Recording of Information on Magnetic Tape 75

Vasil'yev, O.F., Engineer. Analysis of Certain Relationships for an Economical Selection of the Dimensions of a Magnetic Drum 81

Anisimov, B.V., Candidate of Technical Sciences, and Yu. V. Vinogradov, Engineer. On the Problem of the Electrical Representation of Continuously Varying Values in a Numerical Code 86

Shreyder, Yu. A., Candidate of Physical and Mathematical Sciences. Solution of Boundary Value Problems by the Method of Polynomial Approximations 95

Markov, G.Ye., Engineer. Certain Considerations on the Preventive Control of Electronic Computers 99

M.S. Saplin, Engineer. Photoelectric Device Which Receives Printed Numerical Signs 108

Palagnevskiy, A.M., Engineer. Analysis of Information Storage Components of Computers 121

Chetverikov, V.N., Candidate of Technical Sciences. Relay Integrating Drive With Electromagnetic Powder Clutch 130

Kalyagnikov, V.A., Engineer. Certain Algorithms for the Rational Planning of Production 142

Aznetsov, M.M., Candidate of Technical Sciences. Circuit Mechanisms for Programmed Control 148

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, N.A.

28(1) PHASE I BOOK EXPLOITATION SOV/2087

Elementy sistem avtomaticheskogo regulirovaniya. ch. 1: Chuvstvitel'nyye usilitel'nyye i ispolnitel'nyye elementy (Elements of Automatic Control Systems. pt. 1: Sensing, Amplifying and Control Elements) Moscow, Mashgiz, 1959. 722 p. (Series: Osnovy avtomaticheskogo regulirovaniya, t 2) Errata slip inserted. 13,000 copies printed.

Reviewers: F. F. Galteyev, Candidate of Technical Sciences, V. A. Karesev, Doctor of Technical Sciences, P. P. Klobukov, Candidate of Technical Sciences, V. V. Petrov, Candidate of Technical Sciences, Yu. D. Ragozin, Candidate of Technical Sciences, Yu. R. Reyngol'd, Engineer, B. A. Ryabov, Doctor of Technical Sciences, B.D. Sadovskiy, Candidate of Technical Sciences, A. G. Saybel', Candidate of Technical Sciences, and A. A. Shevyakov, Candidate of Technical Sciences; Scientific Eds.: I. M. Vitenberg, Candidate of Technical Sciences, A. I. Moldaver, Candidate of Technical Sciences, and Yu. Ye. Ruzskiy, Candidate of Technical Sciences; Ed. of Series: V. V. Solodovnikov, Doctor of Technical Sciences, Professor; Eds. of Publishing House: G. F. Polyakov, A. G. Akimova, and G. M. Konovalov; Tech. Eds.: A. Ya. Tikhanov

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

Sciences, paragraph 1 of Chapter VIII; K. Ye. Dmitriyev, Candidate of Technical Sciences, paragraph 2 of Chapter XIII; V. A. Kalashnikov, Engineer, Chapter XIV; P. P. Klobukov, Candidate of Technical Sciences, paragraphs 2 and 3 of Chapter VIII; P. F. Klubnikin, Candidate of Technical Sciences, Chapter XII; I. M. Krassov, Candidate of Technical Sciences, paragraph 1 of Chapter XIII, and Chapter XIV; D. S. Pel'por, Doctor of Technical Sciences, paragraphs 1-3of Chapter III; V. V. Petrov, Candidate of Technical Sciences, paragraph 1 of Chapter XIII, and Chapter XIV; M. A. Rozenblat, Doctor of Technical Sciences, Chapter VII; Yu. Ye. Ruzskiy, Candidate of Technical Sciences, paragraphs 1, 3-5 and 8-10 of Chapter 1, paragraphs 2-5, 12, 13 and 17 of Chapter II, paragraph 3 of Chapter XIII, and Chapter IX; B. D. Sadovskiy, Candidate of Technical Sciences, paragraphs 1 and 2 ofChapter X; A. A. Sokolov, Candidate of Technical Sciences, Chapter VI; V.K. Titov, Candidate of Technical Sciences, paragraphs 9-13 of Chapter IV, paragraph 4 of Chapter X, and Chapter XI; G. M. Ulanov, Candidate of Technical Sciences, paragraph 1 of Chapter II; Ye. V. Filipchuk, Candidate of Technical Sciences, paragraphs 6-11, 14-16 and 18-29 of Chapter II;

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, V.A., inzh.

Structural formulas in automation. Vych. tekh. [MVTU] no.3: 48-53 '63. (MIRA 17:2)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, Viktor Anatol'yevich; SABIROV, Rais Shakirovich; RUDAKOVA, L.A., red.

["Ufa" welding torch; practical manual for introducing the use of propane-butane mixturer in the flame machining of metals] Svarochnaia gorelka "Ufa"; prakticheskoe posobie po vnedreniiu v gazoplamennuiu obrabotku metallov propan-butovykh smesei. Ufa, Bashkirskoe knizhnoe izd-vo, 1963. 102 p. (MIRA 18:10)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

YEVSTRATOVA, N. I.; KALASHNIKOV, V. B.; LAPIN, V. N.; SHEKHTER, Yu. N.

Obtaining thiosalts from the tar of Kasphpir shales. Trudy VNIIT no. 11:144-154 '62. (MIRA 17:5)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KAIASHNIKOV, V.D., inzhener; TITOV, A.A., inzhener.

The new Ulan Bator-Sining railroad line. Zhel.dor.transp. 37 no.1: 71-72 Ja '56. (MLRA 9:3)

(Asia--Railroads)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

TIKHOMIROV, V.V.; KALASHNIKOV, V.D.

Insulating reinforced-concrete reservoirs (from "Konzerv és papirkaipar, "July-Aug. 1956). Kons. i ov. prom. 14 no.1:43-44 Ja '59. (MIRA 12:1)

(Hungary--Canning industry--Equipment and supplies)
(Insulating materials)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOVA, L.M., kand. ekon. nauk, dots.; KALASHNIKOV, V.D.; YEPIKHIN, P.S.; LAPSHINA, Ye.A.; PENTKOVSKIY, N.I., prof., retsenzent; GORBUSHIN, P.B., retsenzent; RYABOVA, O.A.,red.

[Economics of the building materials industry] Ekonomika promyshlennosti stroitel'nykh materialov. [By] L.M.Kalashnikova i dr. Moskva Vysshaia shkola, 1964. 307 p. (MIRA 17:10)

1. Zaveduyushchiy kafedroy ekonomiki i organizatsii Moskovskogo inzhenerno-stroitel'nogo instituta (for Pentkovskiy). 2. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR (for Gorbushin).

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOVA, L.M., kand. ekon. nauk; YEFIKHIN, P.S.; ZAGORCHIK, M.M. [deceased]; KALASHNIKOV, V.D.; NAGIBIN, G.V.; RYABOVA, O.A., red.

[Organization and planning of production in building materials industry enterprises] Organizatsiia i planirovanie proizvodstva na predpriiatiiakh promyshlennosti stroitel'nykh materialov. IAroslavl', Rosvuzizdat, 1963. 346 p. (MIRA 18:3)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, Viktor Dmitriyevich; KALASHNIKOVA, Lyudmila Mikhaylovna; RYABOVA, O.A., red.

[Establishing technical standards for work processes in building materials industry enterprises] Tekhnicheskoe normirovanie protsessov truda na predpriiatiiakh promyshlennosti stroitel'nykh materialov. Moskva, Vysshaia shkola, 1965. 242 p. (MIRA 18:8)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, V. F.; VORONTSOV-VEL'YAMINOV, B. A.

"Definitive curve describing the variation in brightness of nova lacertae 1910," Astron. Zhur., 16, No 5, 1939.

Report U-1518, 23 Oct 1951

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

ACC NR: AP6034137 (A) SOURCE CODE: UR/0114/66/000/010/0036/0038

AUTHOR: Kalashnikov, V. F. (Candidate of technical sciences)

ORG: none

TITLE: On statistically estimating the reliability of a turbogenerator set

SOURCE: Energomashinostroyeniye, no. 10, 1966, 36-38

TOPIC TAGS: turbine, electric power plant, statistics, statistic distribution, turbogenerator, mechanical failure, probability, reliability/ PVK-200-1 turbogenerator

ABSTRACT: In this paper problems of statistically estimating the reliability of a turbogenerator set, failures, and recoveries are examined. The PVK-200-1 turbogenerator set is used as an example. An unordered set of N = 66 random realizations of the operating time between failures of a PVK-200-1 and an unordered set of N = 61 random realizations of recovery time were studied. These data were obtained from analysis of the operation of these units at electric power stations. It was found that a turbogenerator set is a complex recoverable system. The flow of failures obeys an exponentional law. The flow of recoveries after failures of various elements also obeys an exponential law. A final determination of the distribution law of failures and recoveries in specific cases can be made by analysis of statistical data. Orig. art. has: 4 formulas.

SUB CODE: 10/ SUBM DATE: none/ ORIG REF: 003 UDC: 62-135.004.15

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

MONASTYRSKAYA, M.S.; KOROL'KOV, N.V.; SAUTIN, B.V.; KALASHNIKOV, V.G.

Use of L-7 and SKS-30-1 latexes in the manufacture of artificial "Kozhmatol" leather. Kozh.-obuv. prom. 6 no.12:15-19 D '64
(MIRA 18:2)

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L 1256-66 EWA(h)/EWT(1)

ACCESSION NR: AP5024371 UR/0286/65/000/015/0043/0043
621.317.7

AUTHOR: Kalashnikov, V. G.; Golod, O. S.

TITLE: A method for continuously varying the phase of a sinusoidal oscillation. Class 21, No. 173273

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 15, 1965, 43

TOPIC TAGS: oscillation, electronic equipment, phase control, phase variation, phase regulator

ABSTRACT: This Author's Certificate introduces a method for continuously varying the phase of a sinusoidal oscillation, where the phase of the input signal is shifted by 90° and both signals are fed to multipliers. Time lag is reduced by feeding to the second input of each multiplier a control voltage whose amplitude varies in proportion to the sine and cosine respectively of the required phase shift angle. The frequency of this control voltage depends on the required rate of change in phase. A common summation unit is used for vector addition of the output signals

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

L 1256-66

ACCESSION NR: AP5024371

from the multipliers.

ASSOCIATION: Organizatsiya gosudarstvennogo komiteta po radioelektronike SSSR (Organization of the State Committee for Radio Electronics, SSSR)

SUBMITTED: 30Sep63 ENCL: 00 SUB CODE: EC

NO REF SOV: 000 OTHER: 000

Card 2/2

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

YASHKIN, A.Ya.; GOLUBEV, A.N.; KALASHNIKOV, V.G.

Calculation of the passband of straight waveguides with stepped cross section. Radiotekh. i elektron. 10 no.6:1038-1042 Je '65. (MIRA 18:6)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

3-58-7-13/36

AUTHOR: Kalashnikov, V.I., Secretary of the Party Office

TITLE: Not Only to Teach, but Also to Educate (Ne tel'ko uchit', no i vospityvat')

PERIODICAL: Vestnik vysshey shkoly, 1958, Nr 7, pp 47-49 (USSR)

ABSTRACT: The author describes the role of the Komsomol organization in the education of future teachers at the Lugansk Pedagogical Institute imeni T.G. Shevchenko. The educational work is conducted in different aspects of the life of students. Students become acquainted with various industries of the town; some of them work on different machines in the plants. Students also work in various laboratories and workshops of the institute. In their free time they visit various schools and help the teachers in the laboratories or take part in school circles. The Komsomol has organized useful recreation for the students in reconstructing war-damaged buildings.

ASSOCIATION: Luganskiy pedagogicheskiy institut imeni T.G. Shevchenko (The Lugansk Pedagogical Institute imeni T.G. Shevchenko)

Card 1/2

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, K.K., (st. Chernovtsy); SHAMIS, I.M., glavnyy bukhgalter (st. Chernovtsy); SOLOBAYENKO, L.D., ekonomist (st. Chernovtsy)

Advanced technology of car repair and improved cost accounting. Zhel. dor. transp. 38 no.8:54-57 Ag '56. (MLRA 9:10)

1. Zamestitel' nachal'nika Chernovitskogo vagonnogo uchastka (for Kalashnikov).
(Railroads--Cars--Maintenance and repair)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

VASIL'YEV, V.G., kand.tekhn.nauk; LOMAKIN, V.P., inzh.; KALASHNIKOV, V.I., inzh.

Electron model of electromechanical lifting and thrust mechanisms on excavating machines with simultaneous operation on the part of these mechanisms. Izv. vys. ucheb. zav.; gor. zhur. no.9:109-116 '60. (MIRA 13:9)

1. Khar'kovskiy politekhnicheskiy institut im. V.I. Lenina.
(Excavating machinery--Electromechanical analogies)
(Electronic analog computers)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, Vasiliy Ivanovich

[Pages of life; reminiscences about my father] Stranitsy zhizni; vospominaniia ob ottse. Gor'kii, Gor'kovskoe knizhnoe izd-vo, 1960. 138 p. (MIRA 14:3)
(Kalashnikov, Vasilii Ivanovich, 1849-1908)

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"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7

KALASHNIKOV, V.I., inzh.; KUZIN, M.D., inzh.; ROZENFEL'D, V.S., inzh.; SHAVEL'ZON, M.V., inzh.

Automatization of technological processes in autoclaves.
Stroi. mat. 5 no.6:18-20 Je '59. (MIRA 12:8)
(Autoclaves) (Automatic control)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000620020004-7"